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# DDAS Accident Report

## Accident details

<b>Report date:</b> 05/03/2011	<b>Accident number:</b> 622
<b>Accident time:</b> 10:00	<b>Accident Date:</b> 06/04/2009
<b>Where it occurred:</b> MF 394, Um Al Quttain Village, Almafraq Province	<b>Country:</b> Jordan
<b>Primary cause:</b> Victim inattention (?)	<b>Secondary cause:</b> Field control inadequacy (?)
<b>Class:</b> Excavation accident	<b>Date of main report:</b> Not recorded
<b>ID original source:</b> None	<b>Name of source:</b> Demining group
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> M14 AP blast	<b>Ground condition:</b> hard rocks/stones
<b>Date record created:</b>	<b>Date last modified:</b> 05/03/2011
<b>No of victims:</b> 1	<b>No of documents:</b> 2

## Map details

<b>Longitude:</b>	<b>Latitude:</b>
<b>Alt. coord. system:</b>	<b>Coordinates fixed by:</b>
<b>Map east:</b> 36 526' 26"E	<b>Map north:</b> 32 356' 45"N
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

no independent investigation available (?)  
standing to excavate (?)  
use of rake (?)  
non injurious accident (?)

## Accident report

An internal demining group accident report was made available. The conversion into a DDAS file has led to some of the original formatting being lost. Text in square brackets [ ] is editorial.

The internal report is reproduced below, edited for anonymity.

## **INCIDENT INVESTIGATION FOR [Demining group] – MINE ACTION TEAM - JORDAN**

TASK NAME SABHA 7 (394)

GRID REF: 32 356' 45"N: 36 526' 26"E

MINEFIELD NO – 394: MINEFIELD TASK ID - E 394 SABHA 7

INVESTIGATION CONDUCTED BY – [Demining group], [Name removed].

DEMINER: [the Victim]. DATE OF BIRTH: 28/8/1969.

SECTION COMMANDER: [Name removed]. TEAM LEADER: [Name removed].

TIME OF INCIDENT: 10:00 AM, DATE OF INCIDENT: 6 APR 2009

NATURE OF INJURY: No Injury

TYPE OF MINE: Anti Personnel M 14

## **IMSMA DETAILED REPORT FOR MINE INCIDENT Monday, 6 April 2009**

### **Part 1 – Description of the incident**

1. Organisation name: [Demining group], JORDAN, Team No: METAL DETECTOR 1
2. Incident date: 06/04/2009. Time: 10:00 AM
3. Location of incident: EAST SECTOR, Province: ALMAFRAQ, Village: UM AL QUTTAIN.  
Project or task No: E 394 SABHA 7
4. Name of site manager or team leader: [Name removed]
5. Type of incident: M14 AP MINE, uncontrolled detonation of a mine.
6. Device was detonated by: deminer
7. Device detonated while: Raking with Heavy Rake, Investigating
8. Device was found in an area classified as: a known hazardous area
9. Narrative (Describe how the incident happened. Attach additional pages and photographs or diagrams to assist in clarifying the circumstances surrounding the incident):  
  
While the deminer was working in investigating a signal indicated by the metal detector in a Scattered Mine Line (SML) in Sabha 7 using the Heavy RAKE , an M14 activated by pressing the pressure plate

### **Part 2 – Injuries**

10. Did the incident result in any injuries? No
11. List people injured and nature of injury: [None]

### **Part 3 – Equipment damages**

12. Did the incident result in any damage to equipment or property? No
13. List any mine action equipment or property damage: [None]
14. List damage to equipment or property owned by a member of the public or the government. [None]

### **Part 4 – Explosive hazard**

15. Provide details of mines/UXO/ other devices that were involved in the incident.

Device Type:            Method:        Determined by:

AP (Blast) Mine       Buried            RAKING

16. State specific device (if known): M 14 AP MINE

17. Comments (include measurements of any crater resulting from the explosion): Crater

Depth: approx. 15 cm / Width: approx. 40 cm

#### **Part 5 - Site conditions**

18. Describe the conditions at the site at time of the incident

Ground/Terrain: Hard, Flat

Weather: Clear

Vegetation: Bush, Light



[The accident site.]

#### **Part 6 – Team and task details**

20. Qualifications of Member(s) involved in the incident:

Name	Position in Location	Occupation
[the Victim]	Deminer	Metal Detector 1

21. How long had this team been?

- a. At this site? 1 month
- b. working on this task? 4 months
- c. working on the day? Three Hours

22. Detector type: N/A. Tripwire feeler used? No

23. Hand tool: HEAVY RAKE

24. PPE: Vest, Visor, [Blast boots]

25. Comments: [None]

#### **Part 7 - Medical & First Aid**

Medical treatment required? no

26. Medical Support at Incident Site: Medic, 1st Aid Kit, Stretcher, Ambulance, Safety Vehicle, Radio to call forward medic.

27. Was a Mine Incident Drill carried out? Yes

28. Time and distance data

a. Time from incident to SECTION MEDICAL POINT: (01) minute

b. Time spent at site administering treatment: nil minutes

c. Time from evacuation FROM to arrival King Abdullah Hospital: nil minutes

### **Part 8 – Reporting procedures**

Reported by: [Name removed], [Demining group] Amman Office to: [Demining group] Offices & NCDR

Investigation conducted by: [Name removed], [Name removed]

Report compiled/translated by: [Name removed], [Name removed]

Verified by: [Name removed], [Name removed]

### **Observations and Recommendations**

According to the preliminary investigation the incident is caused due an individual mistake that the deminer according to the SOP have to use first off all the Light RAKE to investigate the signal), then if there is a need to use the heavy RAKE he have to approach it 15 cm from the side and 15 cm from the front with a 15 cm depth (which was not followed properly) and instead of that he hack the mine from the centre of the signal.

### **Operations Recommendations:**

From the investigation it is obvious that the Team Leader and section commander didn't apply the proper supervision for the work methodology and marking system and the internal QA. The team already refreshed to follow up the MD proper procedure for one day after the accident.

The team leader, section commander and the deminer will be warned for breaking the SOP.

Signed: Operations Coordinator, 06 April 2009

### **Attachments:**

Statements by Injured Members

Statements by Witnesses

Photographs of Injuries [A photograph showed no injuries]

Photographs of Incident Site

## **Victim Report**

**Victim number:** 805

**Age:** 39

**Name:** [Name removed]

**Gender:** Male

<b>Status:</b> deminer	<b>Fit for work:</b> yes
<b>Compensation:</b> N/A	<b>Time to hospital:</b> N/A
<b>Protection issued:</b> blast boots	<b>Protection used:</b> Frontal apron, Mask
Frontal apron	visor, blast boots
Mask Visor	

**Summary of injuries:**

COMMENT: No injuries recorded. See Medic's statement.

**Statements**

**Statement 1: the Victim**

At 10:00 am while I was searching for a 12 o'clock mine from the Penultimate group in the SML C area I entered to the mine area and signed it with the signing triangle, I dig 15 cm on the right of the mine with the heavy rake, suddenly I hit it with the heavy rake and the explosion happened.

Answers to Investigator Questions:

Yes, both the section commander and team leader gave us a safety brief before we started working.

Yes, after clearing the last group from the SML area which was full of anti personnel mines I was aware of all the other groups.

Yes, I was informed by team leader to remove the red pickets one by one not every 2 meters.

No, I didn't use the light rake at the beginning.

Yes, I entered to the main group in the right way especially after the last group clearance from the SML area in the presence of the sector coordinator.

**Statement 2: Team leader**

We reached to the site at 6:50 am then I gave the team a safety brief and we distributed them to their sites at 10:00 am we heard a sound of explosion, I was near the 1st group and I was informed by section commander that the accident happened with the 2nd group, I went there and checked on the deminer but he was in a good condition then I informed the sector coordinator.

Answers to Investigator Questions:

Yes, I gave them a safety brief at 6:50 am.

Yes, I gave all the section commanders a quality assurance and mines pads.

Yes, I made QA on the injured de-miner in the first period.

Yes, I informed the deminer to remove the red pickets one by one while progressing in work.

Yes, I knew they were removing the signing pickets in the groups after finishing work.

Yes, the deminer's way in using the heavy rake was wrong.

### **Statement 3: Section commander**

The Team leader [Name removed] gave us a safety brief at 6:50 am, then I gave a brief to my group which contains two de-miners and they are [Name removed] who works in the 1st direction and [the Victim] who works in the SML C area,

The deminer [the Victim] removed 4 AP mines from his site I defused the mines and went to the other deminer and found two MK5 mines with him, I informed the team leader about three MK5 mines to be dealt with by the ADP team cause I couldn't defuse them, I went back to the deminer [the Victim] and defined the location of the 12 o'clock missing mine from the last group using the metal detector at 9:10 am before the break fast break, the sector coordinator asked me to inform him when we will remove the missing mine to make a proof to continue searching and entering other groups, after breakfast we removed the mine, then the deminer went to another group (group 7) from the same site to remove the 12 o'clock mine, then the explosion happened with him when I was checking mines with the other deminer, I informed the team leader and the deminer was in a good condition.

Answers to Investigator Questions:

Yes, the productivity pad was delivered by the team leader.

Yes, I checked on the deminers working with me and made a quality control test for them.

Yes, I was given a full brief from the team leader and I know all my responsibilities.

Yes, I informed the deminer about the correct way in defining locations.

No, I didn't inform the deminer to make prior check and using the light rake.

### **Statement 4: Medic**

At 10:00 am I heard a sound of explosion inside the field, we moved after we were informed by the team leader about an accident, we reached there at 10:01 and evacuated the deminer, he was walking, we checked on him he wasn't suffering any injuries and he didn't want to go to the hospital.

## **Analysis**

The primary cause of this accident is listed as *Victim inattention* because it seems that the deminer was using the procedure incorrectly and knew this at the time. The secondary cause is listed as a *Field Control inadequacy* because the deminer's error was not corrected.

When searching for small mines, there is compelling evidence that the rake procedure can be safe even when a mine is initiated because of the distance from the blast and the correct use of PPE.

The demining group who made this report available is thanked for its transparency and its professional concern to share lessons that can be learned from accidents. This record, along with several other records where rakes were used, provide compelling evidence that the controlled use of rakes can be both effective and tolerably safe (reducing risk of severe injury to tolerable levels).